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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,272	07/17/2000	KYOJI KATO	106774	7448

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EXAMINER

MULLINS, BURTON S

ART UNIT PAPER NUMBER

2834

DATE MAILED: 04/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/617,272

Applicant(s)

KATO, KYOJI

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 4 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

BURTON S. MULLINS  
PRIMARY EXAMINER

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McAllister et al. (US 5,397,971) in view of Suzuki et al. (US 5,793,135). McAllister substantially teaches applicant's invention of a spindle motor for driving a magnetic disk including: a rotor or hub 19 (Fig.4) having a downwardly depending flange at an outer periphery thereof (not numbered, see Fig.4); the hub 19 journaled on a base (stator) 18 by means of bearings 18d; a ring magnet 19c on an inner peripheral surface of the downwardly depending flange (see Fig.4); the hub 19 having an inner shoulder on a surface thereof defined by cylindrical upper end 19b (c.4, lines 62-63); stator core 18e on the base opposed to the magnet 19c and including coils 18g (Fig.5); a standard magnetic disk 2a with a central aperture (not numbered) to be fitted around the inner shoulder 19b of the hub 19 (Fig.4); wherein the downwardly depending flange of the hub has an outer diameter larger than an inner diameter of the central aperture of the standardized magnetic disk (see Fig.4); an inner diameter of the magnet 19c and an outer diameter of the stator 18e are larger than the outer diameter of the inner shoulder 19b (see Fig.4); the hub 19 including an outer shoulder (not numbered; see Fig.4) of stepped shape; the outer diameter of the outer shoulder larger than the outer diameter of the inner shoulder 19b and smaller than the outer diameter of the downwardly depending flange to form a clearance (not numbered; see Fig.4) between the downwardly depending

flange, which surrounds the magnet 19c, and the magnetic disk 2a. McAllister differs in that the bearings are not hydrodynamic bearings; neither does the base include a boss.

Suzuki et al. (US 5,793,135) teaches a dynamic fluid sleeve bearing for a disk drive motor comprising a “boss” (support shaft) 25 integral with the motor base (Fig.) The rotor shaft 28 is fitted onto the boss 25. Two journal regions 29 and 30 formed therebetween comprise a hydrodynamic bearing that includes spiral grooves formed on the support shaft to reduce friction (c.3, lines 38-43). The dynamic sleeve bearing maintains the same advantages of ball bearings while reducing production costs (c.2, lines 1-7), as well as improving steadiness of bearing action (c.4, lines 31-40).

It would have been obvious to modify the bearings of McAllister and provide a fluid sleeve bearing and boss per Suzuki because this would have been desirable to reduce production costs and improving bearing steadiness.

### ***Response to Arguments***

3. Applicant's arguments filed 3-06-02 have been fully considered but they are not wholly persuasive. Regarding the rejection over McAllister and Suzuki, applicant argues that Suzuki does not teach a dynamic fluid pressure bearing and a boss integral with a motor base. Regarding the former, see Suzuki c.3, lines 38-41. Regarding the latter, the boss or “support shaft” 25 is attached to a “base plate” 20 (Fig.1) which comprises a “motor base.” The term “integral” has been held to refer to two pieces rigidly secured together as a single unit, as the boss 25 and base plate 20 in Suzuki are.

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*Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
April 17, 2002